INDEX TO CIVIL ENGINEERING

January—December 1946

Subject Index

AIRPORTS

Act Authorizes $500,000,000 of Federal Aid. Everett C. Crites ... 273
ASCE members prepare municipal airport plan ... 568
Book, *Airport Planning* ... 372
"Building Saipan." James C. Howland ... 104
"Owner-Operator Cooperation Essential to Maximum Use of Airport Facilities." E. H. Sittner ... 478
"Round-the-Clock Job for the Task Force." W. G. Staggs and J. H. Dudley ... 120
Small cities will have opportunity for ... 565
"Stability of Runway Soils Determined by Ground-Water Vapor." H. H. Houk ... 446
"Wind Analysis for Airport Design." Samuel B. Solot ... 122

AMERICAN ACADEMY OF ARTS AND SCIENCES

Permanent Science Fund ... 49

AMERICAN INSTITUTE OF CONSULTING ENGINEERS

Officers for 1946 ... 141

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS

Elects officers ... 414

AMERICAN SOCIETY FOR ENGINEERING EDUCATION

New name of SPEE ... 411

AMERICAN SOCIETY OF CIVIL ENGINEERS

Activities studied at Ohio State ... 410
Address list, corrections to, requested ... 44
Annual report for 1945 ... 84
Awards
- Construction Engineering Prize ... 42
- Daniel W. Mead prizes ... 466
- Freeman Fund—open for business ... 226
- Harza Latin-American Junior ... 89
- J. Waldo Smith Fellowship ... 44
- Medals, prizes, and awards explained ... 225
- 1946 prizes and awards announced ... 514
- Research prizes to be offered ... 366
- Society medals and prizes awarded January 1946 ... 35
- *See also* Awards

Badges, delay in delivery eliminated ... 466
Ballots
- Final ballot on 1946 officers ... 82
- First ballot on 1947 officers ... 406
- Second ballot on 1947 officers ... 513

Board of Direction
- Minutes of meetings ... 76, 77, 220, 364, 507
- Policy on labor legislation ... 83
- Recommends coordination of pollution control to House committee ... 81
- Resolution of, re Army discrimination against sanitary engineers ... 132
- Upholds coordination of pollution control by U.S. Public Health Service ... 136

Civil Engineering
- Index in December ... 551
- New format for ... 180
- New manager and editor for ... 410
- Problem of paper ... 276
- Professional card directory started ... 85
- Changes in staff on ... 514
- Trim size again reduced ... 366

Collective Bargaining
- Board of Direction calls for modifications in Wagner Act ... 511
- Board policy stated ... 82
- By engineers in Los Angeles, by William N. Carey ... 130
- Committee proposes policy for EJC ... 464
- "Engineer Labor Policy Proposed" W. N. Carey ... 316
- Minnesota engineers' suggestions on ... 81
- Presentation to Subcommittee of House Labor Committee ... 339
- Report of Committee on Employment Conditions, by A. M. Rawn ... 133
- Report of Committee on Employment Conditions re legislation ... 222
- Survey by EJC Committee on Collective Bargaining by Engineers in Professional Work ... 179
- "What Next in Collective Bargaining?" T. R. Agg ... 409

Committees
- Education Committee reports for 1944 and 1945 ... 90
- Salaries Committee revises report ... 464

Dues raise commented on by *Eng. News Record* ... 557

Issue	Page Numbers
January	1– 52
February	53– 98
March	99–142
April	143–192
May	193–236
June	237–284
July	285–332
August	333–376
September	377–422
October	423–474
November	475–522
December	523–568

- Discussed by Directors ... 515

Field Secretary, employment of, deferred ... 277
Films available ... 272
Joint Committee on Floods ... 183
Legislation
- Attention to Bloom Bill urged ... 270
- Coordination of pollution control under U.S.P.H.S., E. L. Chandler ... 81
- McMahon Atom Bill approved ... 227
- Report of Committee on Employment Conditions re remedial legislation ... 222
- Valley authorities discussed by Pres. Horner ... 270

Local Sections
- Delegates meet in Spokane ... 409
- "It's Your Society" ... 547
- "Local Section Vigor Essential to Engineer's Status." W. W. Horner ... 241
- Illinois Section cooperates in Power Conf ... 42
- Kansas Section seeks amended license law ... 317
- Maryland Section resumes prizes ... 365
- Mid-South has bulletin ... 555
- Mohawk-Hudson Section in sanitation council ... 82
- Montana Section organized ... 137
- N.Y. Sections seek state group ... 408
- Northwestern establishes scholarship ... 556
- Northwestern uses Veteran's Guide ... 275
- Sacramento Section summarizes members' war records ... 467
- St. Louis Section discusses atomic power ... 558
- Tennessee Valley Section's fall meeting ... 554
- Texas Section advances postwar planning ... 89
- Texas Section studies employment conditions ... 87
- Tri-City Section sponsors civic meet ... 408
- Wisconsin Section has new headquarters ... 465

Meetings
- Annual Meeting 1946 ... 79
- Annual Meeting 1947, preview ... 523
- Annual Meeting plans must be made early ... 512, 514
- Central American engineers at Spring Meeting ... 274
- Convention in Spokane reviewed ... 360
- Convention of 1883 ... 272
- Engineer's wife holds attendance record (Mrs. Winsor) ... 136
- Fall Meeting in Kansas City ... 360
- Kansas City meeting reviewed ... 500
- Photographs of Spokane Convention ... 407
- Scheduled for 1946 ... 83
- Spring Meeting 1946, preview ... 129
- Spring Meeting 1946, review ... 218

Members
- Discuss public works on radio ... 408
- Honored by Canal stamp issue ... 408

Membership
- Exploratory conference on ... 83
- Honorary Members, new for 1946 ... 37
- Life members, new, listed ... 86
- Military experience as credit for ... 222
- Qualifications of veterans ... 273
- Transfer to Member grade simplified ... 136

Membership certificates
- Size changed, also issued to Juniors ... 83, 131

Nominees for 1947, biographies ... 550
Office opened in Los Angeles ... 85
Officers
- Broadcast from Kansas City ... 500
- Professional records of nominees for 1947 ... 550

President
- Annual address ... 333
- Discussion by Eleanor H. Frick ... 463
- For 1946, W. W. Horner ... 75
- Hastings, E. M., nominated for 1947 ... 507
- "Local Sections Have Responsibility in Solving Professional Problems." W. W. Horner ... 481
- St. Louis dinner honors ... 223
- Valley authorities discussed by Pres. Horner ... 270
- Visits New England Sections ... 132

Proceedings, preview of L. R. Howson paper ... 135
Public relations, letter from Vice-President Thomas ... 88
Publications, back copies needed ... 275
Salaries
- Boost for engineers recommended ... 364
- Interim Classification and Compensation Plan Revised by Board of Direction ... 510
- Los Angeles County survey completed ... 88
- Progress in Los Angeles and Louisiana ... 556
- Publication of schedule delayed ... 409
- Salary reprints available ... 555
- Surveys in progress ... 87

Staff
- Beam, Carl E., rejoins ... 42
- Navy honor to ... 222
- Comins, H. D., joins ... 39
- Reassignment of duties announced ... 514
- Richmond, A. P., assists in salary surveys ... 276
- Secretary Carey gets Army honor ... 274

Student Chapters
- Case School of Applied Science delegation to Annual Meeting ... 83
- Five again active ... 43
- Five recently reactivated ... 182
- Letters of commendation ... 221
- Navy films available for ... 515
- Steinman lecture available ... 508
- Urged to use lectures ... 465
- Virginia Conference of ... 320

Technical Divisions
- Air Transport Division instituted ... 78
- Construction Division's Committee on Construction Contracts ... 317, 365
- "So You're Going to Present a Paper" ... 548
- Survey of membership in ... 42
- Waterways Division's Committee on Ports and Harbors ... 228

Transactions
- Copies needed ... 365
- Cumulative index planned ... 405
- New procedure for distributing, H. F. Thomson ... 405
- Order blanks due ... 466
- Vol. 105 requested ... 556

UN planning committee ... 180
Veterans' guide circulated by ... 134
Yearbook for 1946 omitted ... 43

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

Albert Haertlein addresses meeting ... 519
E. W. O'Brien elected president ... 520
Professional bargaining discussed at meeting ... 563
Housing costs discussed at meeting ... 565

AMERICAN STANDARDS ASSOCIATION

Changes meeting date ... 520

AMERICAN WELDING SOCIETY

Annual meeting ... 470

ANECDOTES OF ENGINEERS

Reminiscences of Lord Kelvin ... 187

AWARDS

Alfred Noble Prize for 1945 ... 41
Hoover Medal to Vannevar Bush ... 555
Hoover Medal to W. H. Harrison ... 181
John Fritz Medal to L. W. Chubb ... 515
Moles award to Miles I. Killmer ... 95
SPEE teaching award ... 284
Washington Award to Vannevar Bush ... 90

BANK PROTECTION

"Steel Rails for Bank Protection on Salinas River, California." H. F. Cozzens ... 113

BEACHES

Erosion on North Shore of Long Island ... 188

BLASTING

"Blast Holes Shot Into Volcanic Slab." George A. Cunney ... 71

BRIDGES

"Additional Stiffening of Bronx-Whitestone Bridge." O. H. Ammann ... 101
Discussion by Louis Balog ... 358
"Aircraft Damage to Suspension Bridge." Edwin F. Levy ... 350
"All-Aluminum Span Carries Rail Traffic Over Grasse River Bridge." Shortridge Hardesty and J. M. Garrelts ... 527
"The Callender-Hamilton Bridging System." A. M. Hamilton ... 116
Deflection theory of suspension bridges ... 190
"Design of Bridges Against Wind. IV. Aerodynamic Instability—Prevention and Cure." D. B. Steinman ... 20
V. "Criteria for Assuring Aerodynamic Stability." D. B. Steinman ... 66
Discussion, John F. Ripken ... 128
Discussion, H. Shirley Smith ... 128, 269
Discussion by T. Belzner, Mrs. Roebling and Brooklyn Bridge ... 33
Discussion by W. A. Niles of Engel's "Pecos River Bridge" ... 34
"Floating Caissons Form Pier Foundations for Anacostia River Bridge." Kenneth C. Cox ... 532
"Four-Level Highway Grade Separation Adopted After Model Study." E. J. Grumm and F. W. Panhorst ... 356
Guam masonry bridge defies bombs, discussion by Raymond Cutter ... 461
"Lessons in Bridge Design Taught by Aerodynamic Studies." F. B. Farquharson ... 344
Discussion by D. B. Steinman ... 462
"The St. Johns Bridge" (poem) by Read Bain ... 189
"Single-Column Viaduct Eliminates Need for Skew Spans." R. W. Finke ... 89, 172
"Testing Bailey Bridges to Failure." D. Allan Firmage ... 154

BUILDINGS

American Iron and Steel Institute building code bulletins ... 417
Building Officials Foundation established ... 568
"The Federal Building Program." W. E. Reynolds ... 252
Floating building absorbs earthquake shock ... 539
New institute will conduct research on building products ... 565
Plans for research on construction ... 190
Progress on building code ... 473
"Underpinning Features Commercial Building Construction." Joseph C. Weaver ... 542
"Unusual Expansion Joints Used in High Concrete Walls." Alfred Zweig ... 401

CANALS

Panama Canal study begun by consultants ... 470

CITY PLANNING

Baltimore considers its blighted areas ... 190
"Chicago Board Develops Public Works Program." Philip Harrington ... 24
"Chicago's Public Works to Cost Nearly 300 Million in Seven Years." Lloyd M. Johnson ... 398
"Legislation Needed for Urban Redevelopment." M. C. Lubar ... 245
"New York State to Build Highways Through Cities as Check on Decentralization." Leonard A. Bergman ... 477
Pittsburgh postwar progress report ... 414
Richmond, Va., Commission issues report ... 416
St. Paul plans for better living ... 373
Vancouver, Wash., planning report ... 415
"What Can Be Done About Traffic Congestion? I. The Problem We Face." Leslie Williams ... 149
II. "Urban Parkways and Expressways." W. S. Chapin ... 151
Discussion, Fred Lavis ... 268
VI. "City Planning, Zoning, and Housing." H. Evert Kincaid ... 262

COFFERDAMS

"Wellpoints Dewater Denison Dam Closure Area." Thomas C. Gill ... 108

COLLECTIVE BARGAINING

ASCE calls for modifications in Wagner Act ... 511
At Camden plant of R.C.A. ... 282
CIO unit notes receiving Latin-American "assist" ... 520
Consulting firm signs contract with professional engineers group ... 328
Discussed by ASME head ... 563
"Engineer Labor Policy Proposed." W. N. Carey ... 316
Engineering Guild of Oregon ... 326
"Government Employees' Organizations Appraised." ... 352
Group to be formed in Sacramento ... 465
Northwest Professional Engineer lauds ASCE labor stand ... 520
"Professional Bargaining Units Form National Organization" ... 480
"Professional Engineers in Southern California Form Bargaining Units." Sterling S. Green ... 213
Seattle engineers choose bargaining group ... 326
Statement by Messrs. Chandler and Carey to Subcommittee of House Labor Committee ... 339
"Strikes, Boycotts, Closed-Shop Issue Harass West Coast Engineers." Walter E. Jessup ... 538
"Western Bargaining Unit Men Form National Group" ... 380
"What Next in Collective Bargaining?" T. R. Agg ... 409

COMMITTEE FOR ECONOMIC DEVELOPMENT

Calls for postponement of public works ... 473
Malcolm Pirnie elected trustee of ... 317

CONCRETE

"Addition of Air-Entraining Agent at Concrete Mixer Advocated." Charles E. Wuerpel ... 496
American Concrete Institute manual ... 470
"Benefits from Concrete-Mixer Standardization." C. S. Embrey ... 325
"Less Sand and Water in Air-Entraining Batches Improves Concrete." Myron A. Swayze ... 301

CONSTRUCTION INDUSTRY

AGC recommends lifting of Government controls ... 564
Baird Snyder comments on volume of ... 88
"Benefits from Concrete-Mixer Standardization." C. S. Embrey ... 325
CPA's restrictive order on construction, E. L. Chandler ... 223
"Construction Costs Can Be Cut." William A. Johnson ... 546
Construction volume up 25% ... 568
"Engineers, Contractors Urged to Assume Construction Leadership." A. P. Greensfelder ... 429
Formation of Construction Research Board recommended ... 557
"Highway Construction and Our National Economy." Charles E. Upham ... 340
"Housing Order Will Shrink Engineering Construction." Donald D. King ... 239
Monthly reports on by U.S. Bur. of Foreign and Domestic Commerce ... 50
No drop in costs seen ... 370
"Opportunity for Engineers and Contractors in Housing Program." Kirby Smith ... 391
Volume and prices, foreword, Philip B. Fleming ... 94

CONSTRUCTION PROCEDURE

"Large-Scale Construction Techniques Called for by Housing Program." Wilson W. Wyatt ... 438

CONTRACTS

Manual of U.S. Government ... 49

CORPS OF ENGINEERS

"Missouri Inter-Agency Committee." R. C. Crawford ... 64

DAMS

Book on Shasta Dam ... 283
Fontana Dam Spillway symposium. I. "Spillway Designed for Long-Range Savings." Adolf A. Meyer ... 165
II. "Construction Procedures at Fontana." Oren Reed ... 210
III. "Model and Prototype Studies on Unique Spillway." A. J. Peterka ... 249
Discussion by L. Standish Hall ... 359
Discussion by G. H. Hickox ... 461
Closure by author ... 460
"Performance of TVA Structures Studied." G. H. Hickox (Oct. 1945)
Discussion by J. W. Ball ... 177
Discussion by O. H. Gish ... 178
Potholes Dam construction to start ... 372
"Soil Studies for San Jacinto Dam." J. Neils Thompson ... 57
"Spillway Gates and Equipment on TVA Projects." Kenneth C. Roberts ... 13
"Unique Caissons Make Spillway Repairs Possible at Grand Coulee." Robert Sailer and Bruce G. Davis ... 381
"Wellpoints Dewater Denison Dam Closure Area." Thomas C. Gill ... 108

DISARMAMENT

"Engineers War Detection Plan Receives National Recognition ... 536
"Program for Industrial Disarmament of Japan Proposed by EFC." Allen Wagner ... 292
Report on Japanese Industrial Disarmament due soon ... 274

DOCKS

"Building Saipan." James C. Howland ... 104
"Reconstruction of Manila Harbor" Martin M. Gross ... 168

DREDGING

"River Navigation Extended by Open-Channel Expedients. VI. Dredging Methods Compared." Lawrence B. Feagin ... 494

DRYDOCKS

Navy launches largest on inland river ... 413
"Unusual Floating Drydock Combines Steel and Wood." J. Stuart Crandall ... 386

EARTHWORK

Discussion, factor of safety in stability analyses, D. M. Burmister ... 315
Discussion by Karl Terzaghi ... 403
Discussion by Victor R. Bergman ... 404
Discussion by I. M. Nelidov ... 462
Discussion by R. A. Barron ... 463

ECONOMICS

"Can Engineers Survive Being Classed as 'Overhead?'" F. N. Hveem ... 327
Economics for Engineers. J. C. Stevens ... 271
"Construction Costs Can Be Cut." William A. Johnson ... 546
"Engineers, Contractors Urged to Assume Construction Leadership." A. P. Greensfelder ... 429
"Engineers Joint Council Begins Survey on Economic Status" ... 385
"Highway Construction and Our National Economy." Charles E. Upham ... 340
"Housing Order Will Shrink Engineering Construction." Donald D. King ... 239

EDUCATION

"Aims of a Curriculum for Civil Engineering Graduates." Wallis S. Hamilton ... 163
American Public Health Association accredits schools ... 189
Cornell institutes engineering physics course ... 416
Davis Undergraduate Welding Award ... 95
"A Device for Classroom Demonstration of Moving Loads." D. D. Haines ... 177
Discussion, Paul L. Nichols ... 269
Engineering schools get surplus buildings ... 520
Engineers represented on Citizens' Federal Committee on Education ... 271
"Hydraulics Courses Important in Civil Engineering Curriculum." Harold A. Thomas, Jr. ... 111
Discussion, J. K. Vennard ... 217
Discussion, Don Johnstone ... 267
Discussion, C. E. Kindsvater ... 269
Johns Hopkins opens sanitary lab ... 472
Michigan College of Mining and Technology offers new courses ... 50
N.Y. Univ. research management course ... 50
Newark College building program ... 190
Ohio State students study ASCE activities ... 410
Purdue Univ. Sanitary Engineering Research Advisory Board ... 51
Univ. of Colorado gets research donations ... 51
Univ. of Denver Civil Engineering Department ... 372
Univ. of Illinois' summer surveying camp ... 190
Univ. of Michigan acquires airport ... 328
Univ. of Michigan building fund ... 372
Univ. of Texas Defense Research Laboratory ... 223
Univ. of Wisconsin correspondence courses ... 95, 284
Veterans choose engineering training ... 568
Virginia Polytechnic Institute gets new facilities ... 472
See also Fellowships

EMPLOYMENT

California Tech reports on handicapped ... 416
U.S. Bureau of Reclamation recruits engineers ... 140
See Veterans

ENGINEERING FEES AND SALARIES

See Fees and Salaries of Engineers

ENGINEERING FOUNDATION

A. B. Kinzel again heads ... 513

ENGINEERING SOCIETIES OF NEW ENGLAND

Described at meeting of ASME ... 519

ENGINEERING SOCIETIES LIBRARY

Appreciation of H. W. Craver ... 222
Dr. Craver retires as head of ... 181
How to get technical information ... 320
Makes available Freeman Library books for China ... 416
Receives Barstow bequest ... 179

ENGINEERS COUNCIL FOR PROFESSIONAL DEVELOPMENT

Report on, at 13th annual meeting ... 40
Represents engineers on Citizens' Federal Committee on Education ... 271
Resolution urging deferment for engineering students ... 135
Technical institutes accredited ... 558
Year's accomplishments reviewed ... 512

ENGINEERS AND ENGINEERING

ASCE members take part in Paris Technical Congress 471
"Can Engineering Survive Being Classed as 'Overhead?'" F. N. Hveem 327
Discussion by Enoch R. Needles, poem, "The Civil Engineer—An Appreciation" 269
Endless Horizons by Vannevar Bush, excerpt from 233
"The Engineer in Public Life." Carl Hinshaw 201
"The Engineer in Foreign Service." Aboard the *Lowry*, Paul J. Ford 43
King of the North, Kenneth E. Ristau 90
"Idealism for the Embryo Engineer." L. H. Berger 31
News note from Japan 44
C. E. Davies speaks at Paris Technical Congress 519
"Engineers' War Detection Plan Receives National Recognition" 536
Princeton Bicentennial Conference 519
"Science and Engineering." Boris A. Bakhmeteff 99
"Times Call for Mobilization of Engineers and Scientists." H. S. Aurand 475
Tribute to engineers by Eugene Reybold 48
W. Walter Williams talks at Spokane convention 370

ENGINEERS JOINT COUNCIL

Acts on two bills before Congress 182
Survey on economic status of the engineer, questionnaires due 506
ASCE Employment Conditions Committee proposes changes to 464
Chairman R. E. McConnell honored 95
"Engineer Labor Policy Proposed." William N. Carey 316
"Engineers Focus Attention on EJC" 379
"Engineers Joint Council Begins Survey on Economic Status" 385
Engineers seeking books for war-damaged libraries 320
Engineers to serve on UNESCO advisory commission 415
"Engineers' War Detection Plan Receives National Recognition" 536
Freeman Library books sent to China by 416
Joint Committee on the Economic Status of the Engineer and survey subcommittees 179
Nominated to UNESCO advisory board 565
"Program for Industrial Disarmament of Japan Proposed by EJC." Allen Wagner 292
Report on Japanese industrial disarmament due soon 274

EROSION

On North Shore of Long Island 188
"Steel Rails for Bank Protection on Salinas River, California." H. F. Cozzens 113

ETHICS

"The Engineer's Opportunity to Serve Society." Ralph B. Wiley 193

EXCAVATION

"Railroad Tunnels 'Daylighted' by Company Forces." E. E. Mayo 9

FEES AND SALARIES

Arizona Highway Dept. raises 136
ASCE surveys bring increases 276
Civil Service classification of engineers revised 327
Interim Classification and Compensation Plan Revised by ASCE Board of Direction 510
Revision made in report of ASCE committee 464
Salary reprints available 555

FELLOWSHIPS

Georgia School of Technology offers 51
Graduate fellowships at Experimental Towing Tank 328
National Research Council predoctoral 49
Standard Oil (Indiana) offers 14
Univ. of Colorado offers 51
Univ. of Minnesota, in fluid mechanics 96
Univ. of Utah offers 51
Yale fellowships in traffic engineering 235
See also Education

FILING SYSTEMS

Closure by Ralph W. Spears, "Filing System for Engineering Drawings" 74

FILTERS AND FILTRATION

"Chicago's South District Filtration Plant Placed in Partial Operation." W. W. Deberard and J. R. Baylis 197
"Improvements to Water Works at Mobile, Ala." Arthur N. Beck 17

FISHWAYS

"Salmon Swim Hell's Gate Through New Fishway." C. W. Harris 431

FLOOD CONTROL

"Missouri River Basin Development." Delbert B. Freeman 258
1946 program of Corps of Engineers outlined by R. A. Wheeler 232
"Role of the Lower Tributaries in the Missouri Valley Plan." H. W. Wood, Jr. 118
Work resumed in Southwest 284

FLOODS

"A Graphical Solution for Flood Routing Problems." H. M. Cheng 126
Closure by H. M. Cheng 404

FOUNDATIONS

"Floating Caissons Form Pier Foundations for Anacostia River Bridge." Kenneth C. Cox 532
"Soil Studies for San Jacinto Dam." J. Neils Thompson 57
"Underpinning Features Commercial Building Construction." Joseph C. Weaver 542
"Underpinning Interior Columns to Permit Tunnel Construction." Albert G. DiGiacinto 215
"Wellpoints Dewater Denison Dam Closure Area." Thomas C. Gill 108

GRADE SEPARATIONS

"Four-Level Highway Grade Separation Adopted After Model Study." E. J. Grumm and F. W. Panhorst 353
"Single-Column Viaduct Eliminates Need for Skew Spans." R. W. Finke 172

HANGARS

"Radiant Heating Built Into Concrete Hangar." Francis R. MacLeay 444
"Timber Hangar's Collapse in Florida Hurricane Investigated." D. E. Carberry 388

HARBORS

"Reconstruction of Manila Harbor." Martin M. Gross 168

HEATING

Embedded pipes solve roadway ice problem 537
"Radiant Heating Built Into Concrete Hangar." Francis R. MacLeay 444

HIGHWAYS

AASHO annual meeting scheduled 417
"Better Engineering Recommended to President's Highway Conference" 242
"Blast Holes Shot Into Volcanic Slab." George A. Cunney 71
Bulletin on tire wear available 417
California needs personnel 415
"Channelized Intersection a Lifesaver." Harry S. Wright 311
Conference on highway safety 226
Embedded pipes solve roadway ice problem 537
"Enlarged Tax Areas Promote Construction of Limited-Access Highways." Charles M. Noble 456
"Highway Construction and Our National Economy." Charles M. Upham 340
Highway Research Board annual meeting 415
Highway Research Board publications 50
"New York State to Build Highways Through Cities as Check on Decentralization." Leonard A. Bergman 477
"Rapid Method Determines Bitumen in Road Mixes." M. A. ver Brugge 314
"Road Costs Must Be Justified by Savings to Drivers." Jesse E. Williams 540
Spiral deflection angles, discussion by B. G. Dwyre 216
39 states approve PRA's highway net 472
"What Can Be Done About Traffic Congestion? II. Urban Parkways and Expressways." W. S. Chapin 151
Discussion, Fred Lavis 268

HISTORY OF ENGINEERING

Reminiscences of Lord Kelvin 187
Story of Fairbanks-Morse and Co. 50

HOUSING

Large project for Chicago 563
"Large-Scale Construction Techniques Called for by Housing Program." Wilson W. Wyatt 438
"Opportunity for Engineers and Contractors in Housing Program." Kirby Smith 391
Reduction of costs discussed at ASME meeting 565
"What Can Be Done About Traffic Congestion? VI. City Planning, Zoning, and Housing." H. Evert Kincaid 262

HYDRAULICS

"'Common Well' Nomograph." Ira J. Hooks and Hamilton Gray 175
Conference on hydraulic machinery 471
"A Direction-Indicating Velocity Tube." Wallis S. Hamilton 265
Fontana Dam Spillway symposium. I. "Spillway Designed for Long-Range Savings." Adolf A. Meyer 165
II. "Construction Procedures at Fontana." Oren Reed 210
III. "Model and Prototype Studies on Unique Spillway." A. J. Peterka 249
Discussion by L. Standish Hall 358
Discussion by G. H. Hickox 491
Closure by author 460
"Hydraulics Courses Important in Civil Engineering Curriculum." Harold A. Thomas, Jr. 111
Discussion, J. K. Vennard 217
Discussion, Don Johnstone 267
Discussion, C. E. Kindsvater 269
International Congress for Applied Mechanics in Paris 140
"Performance of TVA Structures Studied." G. H. Hickox (Oct. 1945)
Discussion by James W. Ball 177
Discussion by O. H. Gish 178
Rocky Mt. Hydraulic Laboratory started 41
"Salmon Swim Hell's Gate Through New Fishway." C. W. Harris 431
"Sand Traps Designed for Streams with Heavy Bed Loads." H. A. Burt 357
Third Hydraulic Conference at Iowa Institute 282
"Unique Caissons Make Spillway Repairs Possible at Grand Coulee." Robert Sailer and Bruce G. Davis 381

HYDROELECTRIC POWER

"Spillway Gates and Equipment on TVA Projects." Kenneth C. Roberts 13
"Storage Reservoir Capacity on the Wisconsin River to Be Doubled." M. W. Kyler 455

HYDROELECTRIC POWER PLANTS

Volume, *Atlas Hydroélectrique de France* 414

HYDROGRAPHY

"A Method of Plotting Fixes on a Hydrographic Survey." George F. Nechwort 73

HYDROLOGY

"A Graphical Solution for Flood Routing Problems." H. M. Cheng 126
"River Navigation Extended by Open-Channel Methods." Symposium. I. Malcolm Elliott. II. Lorenz G. Straub. III. J. F. Friedkin. IV. Charles Senour V. Delbert B. Freeman. VI. L. B. Feagin 489
"Snow Surveys Forecast Irrigation Water Supply." R. A. Work 342
Discussion by Fred Paget 463

INDUSTRIAL WASTE

"Coal Fines to Offset Cost of Culm Elimination." James H. Allen 395

INDUSTRY

Discussion by Chen-Hsu T'ang on China Guide 74
"Program for Industrial Disarmament of Japan Proposed by EJC." Allen Wagner 292

INSTRUMENTS

"A Direction-Indicating Velocity Tube." Wallis S. Hamilton 265

IRRIGATION

"Aqueduct for Salt Lake City." L. R. Dunkley 160
"An Expanding Reclamation Program." Kenneth Markwell 207
"Irrigation Needs for Northwest Estimated." Lee McAllister 353
"Snow Surveys Forecast Irrigation Water Supply." R. A. Work 342
Discussion by Fred Paget 463

LAW

Book, *The Engineer at Law* 373

LEGISLATION

Airport Act Authorizes $500,000,000 of Federal Aid. Everett C. Crites 273
Attention to Bloom Bill urged 270
Bloom bill dies 406
California Court decision on competitive bidding 408
McMahon Atom Bill approved 227
Science, pollution bills not enacted 406
Valley authorities discussed by Pres. Horner 270

LEVEES

"Uncompacted Mass Asphalt Paving for River Banks and Levees." A. B. Pickett 451

LIBRARIES

Aid to, in devastated countries 187
Engineers seeking books for war-damaged libraries 320

MALARIA CONTROL

"Malaria Control in Assam." Robert S. Wilmot 60

MAPS

Reclamation Bureau issues for Western projects 472
U.S.G.S. issues map of Wyoming 472

MARKETS

"Engineers Plan New Wholesale Produce Market for New York." Clinton F. Loyd 392
"New Wholesale Produce Market to Dissolve Truck Congestion." Elmer B. Isaak 524

MATERIALS OF CONSTRUCTION
"All-Aluminum Span Carries Rail Traffic Over Grasse River Bridge." Shortridge Hardesty and J. M. Garrelts. 527
Aluminum Bulletin launched. 49
"Fatigue Testing Machine Built for Northwestern University." L. T. Wyly. 471
"Rapid Method Determines Bitumen in Road Mixes." M. A. ver Brugge. 314

METRIC SYSTEM
Discussion by Louis Elliott. 74
Discussion by Arthur Hamm. 178
Discussion by Leonard C. Jordan. 33
Discussion by F. T. Llewellyn. 217
Discussion by Paul Van Buskirk. 216

MOSQUITOES
"Malaria Control in Assam." Robert S. Wilmot. 60

NATIONAL COUNCIL OF ENGINEERING EXAMINERS
Outlines program. 41

NATIONAL RESEARCH COUNCIL
Predoctoral fellowships available. 49

NAVIGATION
"Columbia River Regulation to Aid Navigation." R. E. Hickson. 346
"Radar Shows Promise in Mapping. VI. Loran, New Long-Range Aid to Navigation." Fletcher G. Watson. 297
Reports on loran available. 416
"River Navigation Extended by Open-Channel Expedients" I. Characteristics Permitting Open-Channel Methods. Malcolm Elliott. 489
II. Discharge and Sediment Relationship. Lorenz G. Straub. 490
III. Alinement Effects. J. F. Friedkin. 491
IV. Soil Characteristics of Bed and Banks. Charles Senour. 492
V. Channels Developed by Contraction Works. Delbert B. Freeman. 493
VI. Dredging Methods Compared. L. B. Feagin. 494
"St. Lawrence Power and Navigation Project Awaits Legislation." C. H. Giroux. 300

PANAMA CANAL
Canal Zone pension bill. 232

PARKING
Cities experiment in fringe parking. 563
Kalamazoo lot. 372
New laws solve Boston problem. 373
"What Can Be Done About Traffic Congestion? Off-Street Parking Facilities." F. W. Lovejoy. 202

PILES
"Air Jetting Aids Pile Sinking." Ernest E. Howard. 402
Discussion by R. E. Bakenhus. 460

POWER GENERATION
"St. Lawrence Power and Navigation Project Awaits Legislation." C. H. Giroux. 300

POWER PLANTS
"Vibration Studies on Steel Towers of Boulder Transmission Lines." John K. Minasian. 62

PROFESSIONAL ADVANCEMENT
"Constructive Work with Organizations Spurs Professional Growth." George E. Barnes. 454
"Cooperative Engineering Councils Surveyed." Frank Sanford. 224
Discussion by A. Stuart Collins on competitive design as contrary to ethics. 499
"The Engineer in Public Life." Carl Hinshaw. 201
"The Engineer's Opportunity to Serve Society." Ralph B. Wiley. 193
"It's Your Society". 547
"Local Section Vigor Essential to Engineers' Status." W. W. Horner. 241
"Local Sections Have Responsibility in Solving Professional Problems." W. W. Horner. 481
"Stewardship of Professionalism Given High Priority." W. W. Horner. 333
Discussion by Eleanor H. Frick. 463

PUBLIC HEALTH
"Malaria Control in Assam." Robert S. Wilmot. 60
"Ohio River Valley Water Sanitation Compact." F. H. Waring. 195
Schools accredited in. 189

PUBLIC SPEAKING
"So You're Going to Present a Paper". 548
"Technical Tedium or Otherwise." R. W. Crum. 318
Discussion by Fred Lavis. 403
Discussion by Chas. B. Lusk and Allen S. Cary. 403
Discussion by Ade E. Jaskar. 404
Discussion by William J. Shea. 499
Why "technical tedium"? 464

PUBLIC UTILITIES
Electric service map of California. 326

PUBLIC WORKS
"Chicago's Public Works to Cost Nearly 300 Million in Seven Years." Lloyd M. Johnson. 398
CED calls for postponement of. 473
"The Federal Building Program." W. E. Reynolds. 252
"The Future of Resource Engineering." Kenneth Markwell. 53
"States Build Reserve Shelf of Public Works." Philip B. Fleming. 486

PUMPS AND PUMPING
"Wellpoints Dewater Denison Dam Closure Area." Thomas C. Gill. 108

PUZZLES AND PROBLEMS
"N. G. Neare's Column." R. Robinson Rowe 48, 94, 140, 189, 234, 283, 326, 371, 414, 473, 520, 567
Suspension dam. 563

RAILROADS
"Railroad Tunnels 'Daylighted' by Company Forces." E. E. Mayo. 9
"Railroads' Motive Power Costs Analyzed." A. H. Candee. 439

RECLAMATION
"An Expanding Reclamation Program." Kenneth Markwell. 207
"Missouri River Basin Development." Delbert B. Freeman. 258
"Preferred Treatment Advocated for Reclamation Funds." John W. Haw. 335
See also U.S. Bureau of Reclamation

REGISTRATION OF ENGINEERS
Copies of Model Law available. 506
Injunction against unregistered engineers. 325
Kansas Section seeks amended license law. 317
Model Law, 1946 edition. 317
National Council of State Boards of Engineering Examiners to meet. 411
N.Y. State P.E. board reports. 568
N.Y. State P.E. examinations. 328
Ohio Court order protects title of Engineer. 232
Registration by endorsement. 275

RESEARCH
"Science and Engineering." Boris A. Bakhmeteff. 99
University of Texas Defense Research Laboratory. 233

RESERVOIRS
"Burning in the Tennessee Valley." Howard Ellis Davis. 69
"Reservoir Clearing in the Tennessee Valley." Howard Ellis Davis. 27

RIVERS
"Columbia River Regulation to Aid Navigation." R. E. Hickson. 346
"Missouri Inter-Agency Committee." R. C. Crawford. 64
"Missouri River Basin Development." Delbert B. Freeman. 258
"Ohio River Valley Water Sanitation Compact." F. H. Waring. 195
"Polluted Streams Cleared Up by Aeration." Richard G. Tyler. 348
"River Navigation Extended by Open-Channel Expedients" Symposium. I. Malcolm Elliott. II. Lorenz G. Straub. III. J. F. Friedkin. IV. Charles Senour. V. Delbert B. Freeman. VI. L. B. Feagin. 489
"Role of the Lower Tributaries in the Missouri Valley Plan." H. W. Wood, Jr. 118
"Steel Rails for Bank Protection on Salinas River, California." H. F. Cozzens. 113
"Storage Reservoir Capacity on the Wisconsin River to Be Doubled." M. W. Kyler 455

SAFETY DEVICES AND MEASURES
Book "How Can Accidents Be Prevented?" 413

SANITARY ENGINEERING
'Clean-up of Pennsylvania's Streams Ordered." H. E. Moses. 282
"Disposal Plant to Alleviate Boston Harbor Nuisance. II. Problem of Solids Disposal Solved." Karl R. Kennison. 304
Conference in Rio de Janeiro. 234
"Ohio River Valley Water Sanitation Compact." F. H. Waring. 195

SEABEES
Naval construction deeds recorded in North Africa. 373
Peacetime training program for. 416
War museum established. 519

SEWAGE DISPOSAL
"Disposal Plant to Alleviate Boston Harbor Nuisance. I. Existing Facilities to Be Used in Primary Treatment." Karl R. Kennison. 254
II. "Problem of Solids Disposal Solved." Karl R. Kennison. 304
"Polluted Streams Cleared Up by Aeration." Richard G. Tyler. 348

SEWAGE TREATMENT
"Fuel and Fertilizer from Sewage—Aim of German Treatment Plants." A. J. Fischer. 448
"Reclaimed Sewage to Replace Ground Water in Los Angeles Area.". 498

SEWERS
"Circular Calculator Simplifies Sewer Design." James W. Feild. 400
"Diversion Structure for Combined Sewer Picks Up Sanitary Flow." Ben S. Morrow. 358

SNOW SURVEYS
"Snow Surveys Forecast Irrigation Water Supply." R. A. Work. 342
Discussion by Fred Paget. 463

SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION
Name changed. 411
Offers teaching award. 284

SOIL CONSERVATION
"Role of the Lower Tributaries in the Missouri Valley Plan." H. W. Wood, Jr. 118

SOIL MECHANICS
American Road Builders Association bulletin, by George E. Bertram. 519
Discussion, factor of safety in stability analyses. D. M. Burmister. 315
Discussion by Karl Terzaghi. 403
Discussion by Victor R. Bergman. 404
Discussion by I. M. Nelidov. 462
Discussion by R. A. Barron. 463
"River Navigation Extended by Open-Channel Expedients. IV. Soil Characteristics of Bed and Banks Determine Improvements." Charles Senour. 492
"Soil Studies for San Jacinto Dam." J. Neils Thompson. 57
"Stability of Runway Soils Determined by Ground-Water Vapor." H. H. Houk. 446

SPECIFICATIONS
"Construction Costs Can Be Cut." William A. Johnson. 546

SPILLWAYS
Fontana Dam Spillway Symposium. I. "Spillway Designed for Long-Range Savings." Adolf A. Meyer. 165
II. "Construction Procedures at Fontana." Oren Reed. 210
III. "Model and Prototype Studies on Unique Spillway." A. J. Peterka. 249
Discussion by L. Standish Hall. 358
Discussion by G. H. Hickox. 461
Closure by author. 460
Model tests for Mt. Morris spillway. 415
"Soil Studies for San Jacinto Dam." J. Neils Thompson. 57

STANDARDS, ENGINEERING
National Directory of Commodity Specifications issued. 49
Rivet sizes simplified. 372

STEEL
Book on wartime role of. 328
"Compression and Impact Tests for Steel Acceptance Proposed." D. F. Windenburg. 442
"Vibration Studies on Steel Towers of Boulder Transmission Lines." John K. Minasian. 62

STRAINS AND STRESSES
"Design of Bridges Against Wind. IV. Aerodynamic Instability—Prevention and Cure." D. B. Steinman. 20
V. Criteria for Assuring Aerodynamic Stability." D. B. Steinman. 66
Discussion, John F. Ripken. 128
Discussion, H. Shirley Smith. 128, 269
"Fatigue Testing Machine Built for Northwestern University." L. T. Wyly. 471

STREAM POLLUTION
"Clean-up of Pennsylvania's Streams Ordered." By H. E. Moses. 282
"Coal Fines to Offset Cost of Culm Elimination." James H. Allen. 395
Film "Clean Waters". 417

STREET RAILWAYS
"Marked Savings in Travel Time Featured in Transit Plan." Charles E. DeLeuw... 308
"What Can Be Done About Traffic Congestion? New and Modernized Mass Transit." Walter J. McCarter..... 204

STRESS
See Strains and Stresses

STRUCTURAL ENGINEERING
"Design of Bridges Against Wind. IV. Aerodynamic Instability—Prevention and Cure." D. B. Steinman..... 20
V. "Criteria for Assuring Aerodynamic Stability." D. B. Steinman..... 66
Discussion, John F. Ripken..... 128
Discussion, H. Shirley Smith.....128, 269
"A Device for Classroom Demonstration of Moving Loads." D. D. Haines..... 177
Discussion, Paul L. Nichols..... 269
Discussion by J. C. Early, Analysis of Slender Angle Girts..... 267
Discussion by Robert J. Wood..... 403
Discussion by A. Staubach of Blankenburg's "Unsymmetrical Bending and S-Polygons"..... 33
"A Geometrical Aspect of Failure Theories." Richard Jenney..... 125
International Congress for Applied Mechanics in Paris..... 140
"Timber Beam Loads Determined by Nomograph." Ira J. Hooks..... 459
"Vibration Studies on Steel Towers of Boulder Transmission Lines." John K. Minasian..... 62

STRUCTURES
"Compression and Impact Tests for Steel Acceptance Proposed." D. F. Windenburg..... 442

SUBWAYS
Discussion by R. A. Olmsted, Osaka Subway 128

SURVEYING
Discussion by Ralph Z. Kirkpatrick, Trouble Between the Panhandles..... 33
"A Method of Plotting Fixes on a Hydrographic Survey." George F. Nechwort.. 73
"Radar Shows Promise in Mapping. I. New Ease in Charting Positions." Philip Kissam..... 294
II. "Application of Radar Equipment to Electronic Surveying." Fletcher G. Watson..... 294
III. "Position Determination by Shoran in Hydrographic Surveying." H. W. Hemple..... 295
IV. "Mechanics of Operating Shoran." Loren F. Jones..... 296
V. "Shoran Surveys by Army Demonstrate Accuracy." C. I. Aslakson..... 297
VI. "Loran, New Long-Range Aid to Navigation." Fletcher G. Watson.. 297
VII. "Accurate Determination of Range with Radar." John S. Hall..... 299
Discussion by Fletcher Watson..... 404
Spiral deflection angles, discussion by B. G. Dwyre..... 216
"Surveyor's Parabolic Vertical Curve Simplified." John A. Oakey..... 459
"That 'Three-Point' Problem Again." R. M. Wilson..... 72

TENNESSEE VALLEY AUTHORITY
"Burning in the Tennessee Valley." Howard Ellis Davis..... 69
Fontana Dam Spillway symposium. I. "Spillway Designed for Longe-Range Savings." Adolf A. Meyer..... 165
II. "Construction Procedures at Fontana." Oren Reed..... 210
III. "Model and Prototype Studies on Unique Spillway." A. J. Peterka.... 249
"Performance of TVA Structures Studied." G. H. Hickox (Oct. 1945)
Discussion by James W. Ball..... 177
Discussion by O. H. Gish..... 178
"Reservoir Clearing in the Tennessee Valley." Howard Ellis Davis..... 27
"Spillway Gates and Equipment on TVA Projects."..... 13

TIMBER
"Reservoir Clearing in the Tennessee Valley." Howard Ellis Davis..... 27

TRAFFIC
Eno Foundation traffic conference..... 417
"Marked Savings in Travel Time Featured in Transit Plan." Charles E. DeLeuw... 308
New movie by General Electric Co..... 140
Police launch traffic safety program..... 233
Third New England Traffic Conference.... 284
"What Can Be Done About Traffic Congestion? I. The Problem We Face." Leslie Williams..... 149
II. "Urban Parkways and Expressways." W. S. Chapin..... 151
III. "Off-Street Parking Facilities." F. W. Lovejoy..... 202
IV. "New and Modernized Mass Transit." Walter J. McCarter..... 204
V. "Traffic Engineering and Enforcement Methods." Robert A. Mitchell.. 260

TRANSPORTATION
"Engineers Plan New Wholesale Produce Market for New York." Clinton F. Loyd 392
"Marked Savings in Travel Time Featured in Transit Plan." Charles E. DeLeuw.. 308
"New Wholesale Produce Market to Dissolve Truck Congestion." Elmer B. Isaak..... 524

TUNNELS
Niagara Falls inspection tunnel..... 283
"Railroad Tunnels 'Daylighted' by Company Forces." E. E. Mayo..... 9
"Shield Used in Rock Tunnel Where Hazards Are Unusual." Howard L. King.. 482

UNDERPINNING
"Underpinning Interior Columns to Permit Tunnel Construction." Albert G. Di Giacinto..... 215

UNITED ENGINEERING TRUSTEES, INC.
J. P. H. Perry named president..... 556

UNITED NATIONS
Committee comments on site report..... 555

U.S. ARMY
"Building Saipan." James C. Howland... 104
Draft exemptions for engineers..... 41
Research and Development Division asks engineers' aid..... 415
"Round-the-Clock Job for the Task Force." W. G. Staggs and J. H. Dudley..... 120
"Testing Bailey Bridges to Failure." D. Allan Firmage..... 154
"Times Call for Mobilization of Engineers and Scientists." H. S. Aurand..... 475
Two Divisions merged..... 568

U.S. BUREAU OF RECLAMATION
"The Future of Resource Engineering." Kenneth Markwell..... 53
"Missouri Inter-Agency Committee." R. C. Crawford..... 64
Old Reclamation group..... 188
Maps record program..... 188
Motion pictures loaned..... 472
Reclamation Era resumes publication..... 373
Trains young Chinese engineers..... 414

U.S. CIVIL SERVICE
Classification of engineers revised..... 327

U.S. CORPS OF ENGINEERS
Wheeler outlines 1946 flood control program 232

U.S. GOVERNMENT
International exchange of specialists by State Department..... 318

U.S. NAVY
"Blast Holes Shot Into Volcanic Slab." George A. Cunney..... 71
Commissions offered in Civil Engineer Corps 564

U.S. PUBLIC HEALTH SERVICE
Coordination of pollution control under, favored by ASCE..... 81
Exams for engineers in..... 140
Makes surplus property available..... 234

VETERANS
Guide for, circulated by ASCE..... 134
Guide used in career counseling..... 275
See Employment

WAR PROGRAM
Book, *Steel in the War*..... 328
"Pacific Naval Air Bases" work told..... 373

WATER POLLUTION
"Ohio River Valley Water Sanitation Compact." F. H. Waring..... 195

WATER SUPPLY
"Aqueduct for Salt Lake City." L. R. Dunkley..... 160
"The Case for Break-Point Chlorination." Robert N. Clark..... 157
"'Common Well' Nomograph." Ira J. Hooks and Hamilton Gray..... 175
"Improvements to Water Works at Mobile, Ala." Arthur N. Beck..... 17
"Induced Infiltration Supplies Most Productive Well Field." Raphael G. Kazmann..... 544
"New Hydrant Assembly Conserves Space." Samuel C. McKee..... 265
"Reclaimed Sewage to Replace Ground Water in Los Angeles Area."..... 498
Report on, for Ohio..... 472
Report on, for Philadelphia..... 95
"Use of Native Materials Features Construction of Puerto Rico Water System." Ernest W. Whitlock..... 434

WATER TREATMENT
"The Case for Break-Point Chlorination." Robert N. Clark..... 157
"Chicago's South District Filtration Plant Placed in Partial Operation." W. W. DeBerard and J. R. Baylis..... 197
Helicopter samples Lake Erie water..... 531
"Improvements to Water Works at Mobile, Ala." Arthur N. Beck..... 17
"Two-Compartment Cell Softens Water Electrolytically." Lee Streicher..... 312

WATERSHEDS
"Missouri Inter-Agency Committee." R. C. Crawford..... 64
"Role of the Lower Tributaries in the Missouri Valley Plan." H. W. Wood, Jr..... 118
Valley authorities discussed by Pres. Horner 270

WATERWAYS
"Missouri Inter-Agency Committee." R. C. Crawford..... 64
"Missouri River Basin Development." Delbert B. Freeman..... 258
Red River Lateral Canal urged..... 50
Report on Orinoco-to-Amazon..... 49
"St. Lawrence Power and Navigation Project Awaits Legislation." C. H. Giroux.. 300
"Steel Rails for Bank Protection on Salinas River, California." H. F. Cozzens..... 113
"Uncompacted Mass Asphalt Paving for River Banks and Levees." A. B. Pickett 451

WELDING
Discussion by J. F. Lincoln..... 499
Electric strain gages analyze stresses in welded trusses..... 371
Lincoln Foundation Award Program..... 284

WELLS
"Induced Infiltration Supplies Most Productive Well Fields." Raphael G. Kazmann. 544

NAME INDEX

AGG, T. R.
"What Next in Collective Bargaining?" ... 409

AHLF, AUGUST L.
Wins Alfred Noble Prize ... 41

ALLEN, JAMES H.
"Coal Fines to Offset Cost of Culm Elimination" ... 395

AMMANN, O. H.
"Additional Stiffening of Bronx-Whitestone Bridge" ... 101

ASLAKSON, C. I.
"Radar Shows Promise in Mapping. V. Shoran Surveys by Army Demonstrate Accuracy" ... 297

AURAND, H. S.
Army Public Relations publishes address ... 565
Asks engineers' aid ... 415
"Times Call for Mobilization of Engineers and Scientists" ... 475

BAIN, READ
"The St. Johns Bridge" (poem) ... 189

BAKENHUS, R. F.
Discussion of "Air Jetting Aids Pile Sinking," E. E. Howard ... 460

BAKER, CHARLES ADKINS
Society counsel, dies ... 43

BAKHMETEFF, BORIS A.
Made Honorary Member ASCE ... 37
"Science and Engineering" ... 99

BALL, JAMES W.
Discussion, "Performance of TVA Structures Studied," G. H. Hickox ... 177

BALOG, LOUIS
Discussion of Ammann's "Additional Stiffening of Bronx-Whitestone Bridge ... 358

BARNES, GEORGE E.
"Constructive Work with Organizations Spurs Professional Growth" ... 454

BARRON, R. A.
Discussion of Burmister's letter on factor of safety ... 463

BAYLIS, J. R.
"Chicago's South District Filtration Plant Placed in Partial Operation" ... 197

BEAM, CARL E.
Assigned to *Civil Engineering* ... 410
Navy honor to ... 222
Returns to Society staff ... 42

BECK, ARTHUR N.
"Improvements to Water Works at Mobile, Ala." ... 17

BELZNER, THEODORE
Discussion, Mrs. Roebling and Brooklyn Bridge ... 33

BERGER, L. H.
"Idealism for the Embryo Engineer" ... 31

BERGMAN, LEONARD A.
"New York State to Build Highways Through Cities as Check on Decentralization" ... 477

BERGMAN, VICTOR R.
Discussion of Burmister's letter on factor of safety in stability analyses ... 404

BURMISTER, D. M.
Discussion, factor of safety in stability analyses ... 315

BURT, H. A.
"Sand Traps Designed for Streams with Heavy Bed Loads" ... 357

BUSH, VANNEVAR
"The Builders" from *Endless Horizons* ... 233
Wins Hoover Medal ... 555
Wins Washington Award ... 90

CANDEE, A. H.
"Railroads' Motive Power Costs Analyzed" ... 439

CAPPEL, C. GLENN
Wins Construction Engineering Prize ... 42

CARBERRY, D. E.
"Timber Hangar's Collapse in Florida Hurricane Investigated" ... 388

CAREY, WILLIAM N.
"Collective Bargaining by Engineers in Los Angeles, Calif." ... 130
"Engineer Labor Policy Proposed" ... 316
"Society Asks Freedom for Professional Men in Collective Bargaining Process" ... 339

CARY, ALLEN S.
Discussion of "Technical Tedium or Otherwise," R. W. Crum ... 403

CHANDLER, E. L.
"Notes from the Capital" ... 81, 223, 318
"Society Asks Freedom for Professional Men in Collective Bargaining Process" ... 339

CHAPIN, W. S.
"What Can Be Done About Traffic Congestion? II. Urban Parkways and Expressways" ... 151

CHENG, H. M.
"A Graphical Solution for Flood Routing Problems" ... 126
Closure ... 404

CLARK, ROBERT N.
"The Case for Break-Point Chlorination" ... 157

COLLINS, A. STUART
Discussion on competitive design as contrary to ethics ... 499

COMINS, HARRISON D.
Joins Society staff ... 39

COX, KENNETH C.
"Floating Caissons Form Pier Foundations for Anacostia River Bridge" ... 532

COZZENS, H. F.
"Steel Rails for Bank Protection on Salinas River, California" ... 113

CRANDALL, J. STUART
"Unusual Floating Drydock Combines Steel and Wood" ... 386

CRAVER, HARRISON W.
Appreciation of, on retirement ... 222
Retires as active Library head ... 181

CRAWFORD, R. C.
"Missouri Inter-Agency Committee" ... 64

CRITES, EVERETT C.
Airport Act Authorizes $500,000,000 of Federal Aid ... 273

CROWE, FRANCIS T.
Death of, Hon. M ... 181

CRUM, ROY W.
New Director for District 5 ... 227
"Technical Tedium or Otherwise" ... 318

CUNNEY, GEORGE A.
"Blast Holes Shot Into Volcanic Slab" ... 71

CUTTER, RAYMOND
Discussion, masonry bridge in Guam ... 461

DAVIS, BRUCE G.
"Unique Caissons Make Spillway Repairs Possible at Grand Coulee" ... 381

DAVIS, HOWARD ELLIS
"Burning in the Tennessee Valley" ... 69
"Reservoir Clearing in the Tennessee Valley" ... 27

DeBERARD, W. W.
"Chicago's South District Filtration Plant Placed in Partial Operation" ... 197

DeLEUW, CHARLES E.
"Marked Savings in Travel Time Featured in Transit Plan" ... 308

DEWELL, HENRY D.
Death of ... 225

DiGIACINTO, ALBERT G.
"Underpinning Interior Columns to Permit Tunnel Construction" ... 215

DUDLEY, J. H.
"Round-the-Clock Job for the Task Force" ... 120

DUNKLEY, L. R.
"Aqueduct for Salt Lake City" ... 160

DUNLAP, GEORGE S.
Son of former ASCE Secretary dies ... 275

DWYRE, BURTON G.
Discussion, spiral deflection angles ... 216

EARLY, J. C.
Discussion, Analysis of Slender Angle Girts ... 267

ELLIOTT, LOUIS
Discussion, metric system ... 74

ELLIOTT, MALCOLM
"River Navigation Extended by Open-Channel Expedients. I. Characteristics of Rivers Permitting Open-Channel Methods" ... 489

EMBREY, C. S.
"Benefits from Concrete-Mixer Standardization" ... 325

FARQUHARSON, F. B.
"Lessons in Bridge Design Taught by Aerodynamic Studies" ... 344

FEAGIN, LAWRENCE B.
"River Navigation Extended by Open-Channel Expedients. VI. Dredging Methods Compared" ... 494

FEILD, JAMES W.
"Circular Calculator Simplifies Sewer Design" ... 400

FINKE, R. W.
"Single-Column Viaduct Eliminates Need for Skew Spans" ... 172

FIRMAGE, D. ALLAN
"Testing Bailey Bridges to Failure" ... 154

FISCHER, A. J.
"Fuel and Fertilizer from Sewage—Aim of German Treatment Plants" ... 448

FLEMING, PHILIP B.
Construction volume and prices ... 94
"States Build Reserve Shelf of Public Works" ... 486

FREEMAN, DELBERT B.
"Missouri River Basin Development" ... 258
"River Navigation Extended by Open-Channel Expedients. V. Navigation Channels Developed by Contraction Works" ... 493

FRICK, ELEANOR H.
Discussion of "Stewardship of Professionalism Given High Priority," W. W. Horner ... 463

FRIEDKIN, J. F.
"River Navigation Extended by Open-Channel Expedients. III. Alinement Affects Length, Depth, and Stability of Channel" ... 491

GARRELTS, J. M.
"All-Aluminum Span Carries Rail Traffic Over Grasse River Bridge" ... 527

GILL, THOMAS C.
"Wellpoints Dewater Denison Dam Closure Area" ... 108

GIROUX, C. H.
"St. Lawrence Power and Navigation Project Awaits Legislation" ... 300

GISH, O. H.
Discussion, "Performance of TVA Structures Studied," G. H. Hickox ... 178

GRAY, HAMILTON
"'Common Well' Nomograph" ... 175

GREEN, STERLING S.
"Professional Engineers in Southern California Form Bargaining Units" ... 213

GREENSFELDER, A. P.
"Engineers, Contractors Urged to Assume Construction Leadership" ... 429

GROSS, MARTIN M.
"Reconstruction of Manila Harbor" ... 168

GRUMM, E. J.
"Four-Level Highway Grade Separation Adopted After Model Study" ... 356

HAINES, D. D.
"A Device for Classroom Demonstration of Moving Loads" ... 177

HALL, JOHN S.
"Radar Shows Promise in Mapping. VII. Accurate Determination of Range with Radar" ... 299

HALL, L. STANDISH
Discussion of Peterka's "Model and Prototype Studies on Unique Spillway" ... 359

HAMILTON, A. M.
"The Callender-Hamilton Bridging System" ... 116

HAMILTON, WALLIS S.
"Aims of a Curriculum for Civil Engineering Graduates" ... 163
"A Direction-Indicating Velocity Tube" ... 265

HAMM, ARTHUR
Discussion, metric system ... 178

HARDESTY, SHORTRIDGE
"All-Aluminum Span Carries Rail Traffic Over Grasse River Bridge" ... 527

HARRINGTON, PHILIP
"Chicago Board Develops Public Works Program" ... 24

HARRIS, C. W.
"Salmon Swim Hell's Gate Through New Fishway" ... 431

HASTINGS, E. M.
Nominated for President of ASCE ... 507

HATHAWAY, GAIL
Guest of British engineers ... 506
Succeeds Polk as Vice-President A.S.C.E. ... 183

HAW, JOHN W.
"Preferred Treatment Advocated for Reclamation Funds" ... 335

HEMPLE, H. W.
"Radar Shows Promise in Mapping. III. Position Determination by Shoran in Hydrographic Surveying" ... 295

HICKOX, G. H.
Discussion of "Model and Prototype Studies on Unique Spillway," A. J. Peterka ... 461

HICKSON, R. E.
"Columbia River Regulation to Aid Navigation" ... 346

HINSHAW, CARL
"The Engineer in Public Life" ... 201

HOFFMANN, ROBERT
Death of, Hon. M. ... 180

HOLLISTER, S. C.
Becomes vice-president of Cornell ... 276

HOOKS, IRA J.
"'Common Well' Nomograph" ... 175
"Timber Beam Loads Determined by Nomograph" ... 459

HORNER, W. W.
Biography, as President for 1946 ... 75
"Local Section Vigor Essential to Engineer's Status" ... 241
"Local Sections Have Responsibility in Solving Professional Problems" ... 481
St. Louis dinner honors ... 223
"Stewardship of Professionalism Given High Priority" ... 333
Valley authorities discussed by ... 270

HOUK, H. H.
"Stability of Runway Soils Determined by Ground-Water Vapor" ... 446

HOWARD, ERNEST E.
"Air Jetting Aids Pile Sinking" ... 402

HOWLAND, JAMES C.
"Building Saipan" ... 104

HOYT, J. C.
Former vice-president is dead ... 366

HVEEM, F. N.
"Can Engineering Survive Being Classed as 'Overhead?'" ... 327

ISAAK, ELMER B.
"New Wholesale Produce Market to Dissolve Truck Congestion ... 524

JASKAR, ADELE.
Discussion of "Technical Tedium or Otherwise," R. W. Crum ... 404

JENNEY, RICHARD
"A Geometrical Aspect of Failure Theories" ... 125

JESSUP, WALTER E.
"Strikes, Boycotts, Closed-Shop Issue Harass West Coast Engineers" ... 538

JOHNSON, LLOYD M.
"Chicago's Public Works to Cost Nearly 300 Million in Seven Years" ... 398

JOHNSON, WILLIAM A.
"Construction Costs Can Be Cut" ... 546

JOHNSTONE, DON
Discussion of "Hydraulics Courses Important in Civil Engineering Curricula," J. A. Thomas, Jr. ... 267

JONAH, FRANK GILBERT
Dies ... 43

JONES, LOREN F.
"Radar Shows Promise in Mapping. IV. Mechanics of Operating Shoran" ... 296

JORDAN, LEONARD C.
Discussion, metric system ... 33

KAZMANN, RAPHAEL G.
"Induced Infiltration Supplies Most Productive Well Field" ... 544

KELVIN, LORD
Reminiscences of, by John Younger ... 187

KENNISON, KARL R.
"Disposal Plant to Alleviate Boston Harbor Nuisance. I. Existing Facilities to Be Used in Primary Treatment" ... 254
II. "Problem of Solids Disposal Solved" 304

KETTERING, CHARLES F.
Made Honorary Member ASCE ... 38

KILLMER, MILES I.
Honored by the Moles ... 95

KINCAID, H. EVERT
"City Planning, Zoning, and Housing" ... 262

KINDSVATER, C. E.
Discussion of "Hydraulics Courses Important in the Civil Engineering Curriculum," Harold A. Thomas, Jr. ... 269

KING, DONALD D.
"Housing Order Will Shrink Engineering Construction" ... 239
Joins ASCE staff ... 514

KING, HOWARD L.
"Shield Used in Rock Tunnel Where Hazards Are Unusual" ... 482

KIRKPATRICK, RALPH Z.
Discussion, Trouble Between the Panhandles ... 33

KISSAM, PHILIP
"Radar Shows Promise in Mapping. I. New Ease in Charting Positions" ... 294

KYLER, M. W.
"Storage Reservoir Capacity on the Wisconsin River to Be Doubled" ... 455

LAVIS, FRED
Discussion of "Technical Tedium or Otherwise," R. W. Crum ... 403
Discussion of "Urban Parkways and Expressways," W. S. Chapin ... 268

LEVY, EDWIN F.
"Aircraft Damage to Suspension Bridge" ... 350

LINCOLN, J. F.
Discussion, arc welding ... 499

LLEWELLYN, F. T.
Discussion, metric system ... 217

LOVEJOY, F. W.
"What Can Be Done About Traffic Congestion? Off-Street Parking Facilities" ... 202

LOYD, CLINTON F.
"Engineers Plan New Wholesale Produce Market for New York" ... 392

LUBAR, M. C.
"Legislation Needed for Urban Redevelopment" ... 245

LUSK, CHARLES B.
Discussion of "Technical Tedium or Otherwise," R. W. Crum ... 403

Mac LEAY, FRANCIS R.
"Radiant Heating Built Into Concrete Hangar" ... 444

McALLISTER, LEE
"Irrigation Needs for Northwest Estimated" ... 353

McCARTER, WALTER J.
"What Can Be Done About Traffic Congestion? New and Modernized Mass Transit" ... 204

McCONNELL, ROBERT E.
Honored for Engineers Joint Council work ... 95

McKEE, SAMUEL C.
"New Hydrant Assembly Conserves Space" ... 265

McNEW, J. T. L.
Recovering from illness ... 565

MARKWELL, KENNETH
"An Expanding Reclamation Program" ... 207
"The Future of Resource Engineering" ... 53

MATTHES, GERARD H.
Featured in broadcast ... 468
Reports reactivation of Joint Committee on Floods ... 183

MAYO, E. E.
"Railroad Tunnels 'Daylighted' by Company Forces" ... 9

MEYER, ADOLF A.
"Spillway Designed for Long-Range Savings" ... 165

MINASIAN, JOHN K.
"Vibration Studies on Steel Towers of Boulder Transmission Lines" ... 62

MITCHELL, ROBERT A.
"What Can Be Done About Traffic Congestion? Traffic Engineering and Enforcement Methods" ... 260

MORROW, BEN S.
"Diversion Structure for Combined Sewer Picks Up Sanitary Flow" ... 358

MOSES, H. E.
"Clean-up of Pennsylvania's Streams Ordered" ... 282

NECHWORT, GEORGE
"A Method of Plotting Fixes on a Hydrographic Survey" ... 73

NEEDLES, ENOCH R.
Discussion, poem, "The Civil Engineer—An Appreciation" ... 269

NELIDOV, I. M.
Discussion of Burmister's letter on factor of safety ... 462

NICHOLS, PAUL L.
Discussion of "A Device for Classroom Demonstration of Moving Loads," D. D. Haines ... 269

NILES, WARREN A.
Discussion, Engel's "Pecos River Bridge" ... 34

NOBLE, CHARLES M.
"Enlarged Tax Areas Promote Construction of Limited-Access Highways" ... 456

OAKEY, JOHN A.
"Surveyor's Parabolic Vertical Curve Simplified" ... 459

OLMSTED, R. A.
Discussion, Totake's Osaka Subway ... 128

PAGET, FRED
Discussion of "Snow Surveys Forecast Irrigation Water Supply," R. A. Work ... 463

PANHORST, F. W.
"Four-Level Highway Grade Separation Adopted After Model Study" ... 356

PARKER, GLENN L.
Former Society Director, dies ... 136

PERRY, J. P. H.
President of UET ... 556

PETERKA, A. J.
Symposium on Fontana Spillway. III. "Model and Prototype Studies on Unique Spillway" ... 249
Closure ... 460

PICKETT, A. B.
"Uncompacted Mass Asphalt Paving for River Banks and Levees" ... 451

PIRNIE, MALCOLM
Elected trustee of CED ... 317

POLK, A. C.
Death of, Vice-President ... 182

PURCELL, CHARLES H.
Made Honorary Member ASCE ... 39

RAWN, A. M.
Report of Committee on Employment Conditions, "Bargaining Under Existing Laws Advised" ... 133

REED, OREN
Symposium on Fontana Spillway. II. "Construction Procedures at Fontana" ... 210

REYBOLD, EUGENE
Pays tribute to American engineers ... 48

REYNOLDS, DON P.
Made assistant to the Secretary of ASCE ... 514

REYNOLDS, W. E.
"The Federal Building Program" ... 252

RIPKEN, JOHN R.
Discussion, Steinman's "Design of Bridges Against Wind" ... 128

RISTAU, KENNETH E.
The Engineer in Foreign Service ... 90

ROBERTS, KENNETH C.
"Spillway Gates and Equipment on TVA Projects" ... 13

ROWE, R. ROBINSON
"N. G. Neare's Column" ... 48
94, 140, 189, 234, 283, 326, 371, 414, 473, 520, 567

SAILER, ROBERT
"Unique Caissons Make Spillway Repairs Possible at Grand Coulee" ... 381

SALTER, GEORGE S.
Becomes Mid-West Field Secretary of ASCE ... 514

SANFORD, FRANK
"Cooperative Engineering Councils Surveyed" ... 224

SENOUR, CHARLES
"River Navigation Extended by Open-Channel Expedients. IV. Soil Characteristics of Bed and Banks Determine Improvements" ... 492

SHANNON, WILLIAM D.
Director, elected to state legislature ... 558

SHEA, WILLIAM J.
Discussion of Society Speakers at Spokane Convention ... 499

SITTNER, E. H.
"Owner-Operator Cooperation Essential to Maximum Use of Airport Facilities" ... 478
Reprint of paper available ... 567

SMITH, H. SHIRLEY
Discussion of "Design of Bridges Against Wind," D. B. Steinman ... 128, 269

SMITH, KIRBY
"Opportunity for Engineers and Contractors in Housing Program" ... 391

SNYDER, BAIRD
Comments on public construction ... 88

SOLOT, SAMUEL B.
"Wind Analysis for Airport Design" ... 122

SPEARS, RALPH W.
Closure, "Filing System for Engineering Drawings" ... 74

STAGGS, W. G.
"Round-the-Clock Job for the Task Force" ... 120

STAUBACH, ARNOLD
Discussion, Blankenburg's "Unsymmetrical Bending and S-Polygons" ... 33

STEINMAN, D. B.
"Design of Bridges Against Wind. IV. Aerodynamic Instability—Prevention and Cure" ... 20
V. Criteria for Assuring Aerodynamic Stability" ... 66
Discussion of "Lessons in Bridge Design Taught by Aerodyanmic Studies," F. B. Farquharson ... 462

STEVENS, J. C.
Digest of speech before Engineers' Club of Philadelphia ... 271
Speakers' medal presented to ... 275

STEVENS, J. F.
Honored by Canal Zone stamp ... 366

STRAUB, LORENZ G.
"River Navigation Extended by Open-Channel Expedients. II. Discharge and Sediment Relationship in an Open Channel" ... 490

STREICHER, LEE
"Two-Compartment Cell Softens Water Electrolytically" ... 312

SWAYZE, MYRON A.
"Less Sand and Water in Air-Entraining Batches Improves Concrete" ... 301

T'ANG, CHEN-HSU
Discussion on Guide to Industrialization of China ... 74

TERZAGHI, KARL
Discussion of Burmister's letter, Factor of Safety in Stability Analysis ... 403

THOMAS, HAROLD A., JR.
"Hydraulics Courses Important in Civil Engineering Curriculum" ... 111

THOMPSON, J. NEILS
"Soil Studies for San Jacinto Dam" ... 57

THOMSON, HARRY F.
"Efficiency in Distributing *Transactions* Calls for Small Charge, Individual Order" ... 405

TYLER, RICHARD G.
"Polluted Streams Cleared Up by Aeration" ... 346

UPHAM, CHARLES E.
"Highway Construction and Our National Economy" ... 340

VAN BUSKIRK, PAUL
Discussion, metric system ... 216

VEATCH, N. T.
Honor to Division Chairman ... 276

VENNARD, JOHN K.
Discussion of "Hydraulics Courses Important in Civil Engineering Curricula" by H. A. Thomas, Jr. ... 217

VER BRUGGE, M. A.
"Rapid Method Determines Bitumen in Road Mixes" ... 314

WAGNER, ALLEN
"Program for Industrial Disarmament of Japan Proposed by EJC" ... 292
Assigned to *Civil Engineering* ... 410, 514

WARING, F. H.
"Ohio River Valley Water Sanitation Compact" ... 195

WATSON, FLETCHER G.
"Radar Shows Promise in Mapping. II. Application of Radar Equipment to Electronic Surveying" ... 294
VI. Loran, New Long-Range Aid to Navigation" ... 297
Discussion ... 404

WEAVER, JOSEPH C.
"Underpinning Features Commercial Building Construction" ... 542

WHEELER, R. A.
Outlines Corps of Engineers' 1946 flood control program ... 232

WHITLOCK, ERNEST W.
"Use of Native Materials Features Construction of Puerto Rico Water System" ... 434

WILEY RALPH B.
"The Engineer's Opportunity to Serve Society" ... 193

WILLIAMS, JESSE E.
"Road Costs Must Be Justified by Savings to Drivers" ... 540

WILLIAMS, LESLIE
"What Can Be Done About Traffic Congestion? I. The Problem We Face" ... 149

WILLIAMS, W. WALTER
Talk at Spokane Convention ... 370

WILMOT, ROBERT S.
"Malaria Control in Assam" ... 60

WILMOT, SYDNEY
Reassignment of duties ... 410

WILSON, R. M
"That 'Three-Point' Problem Again" ... 72

WILSON, WILBUR M.
Talk on Bikini atom tests ... 508

WINDENBURG, D. F.
"Compression and Impact Tests for Steel Acceptance Proposed" ... 442

WOOD, H. W., JR.
"Role of the Lower Tributaries in the Missouri Valley Plan" ... 118

WOOD, ROBERT J.
Discussion of J. C. Early's letter on Analysis of Slender Angle Girts ... 403

WORK, R. A.
"Snow Surveys Forecast Irrigation Water Supply" ... 342

WRIGHT, HARRY S.
"Channelized Intersection a Lifesaver" ... 311

WUERPEL, CHARLES E.
"Addition of Air-Entraining Agent at Concrete Mixer Advocated" ... 496

WYATT, WILSON W.
"Large-Scale Construction Techniques Called for by Housing Program" ... 438

WYLY, L. T.
"Fatigue Testing Machine Built for Northwestern University" ... 471

YOUNGER, JOHN
Reminiscences of Lord Kelvin ... 187

ZWEIG, ALFRED
"Unusual Expansion Joints Used in High Concrete Walls" ... 401

In this Index, quotation marks are used to indicate signed articles (other than those appearing in the "Our Readers Say" Department) and the more comprehensive unsigned items.